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Dated: November 3, 2005

Signature: _____

(Grace Yu)



Docket No.: 46692001400
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Chong-Sheng YUAN et al.

Application No.: 10/801,623

Confirmation No.: 2927

Filed: March 15, 2004

Art Unit: 1651

For: METHODS AND COMPOSITIONS FOR
ASSAYING HOMOCYSTEINE

Examiner: S. Fernandez

DECLARATION OF CHONG-SHENG YUAN UNDER 37 C.F.R. § 1.132

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

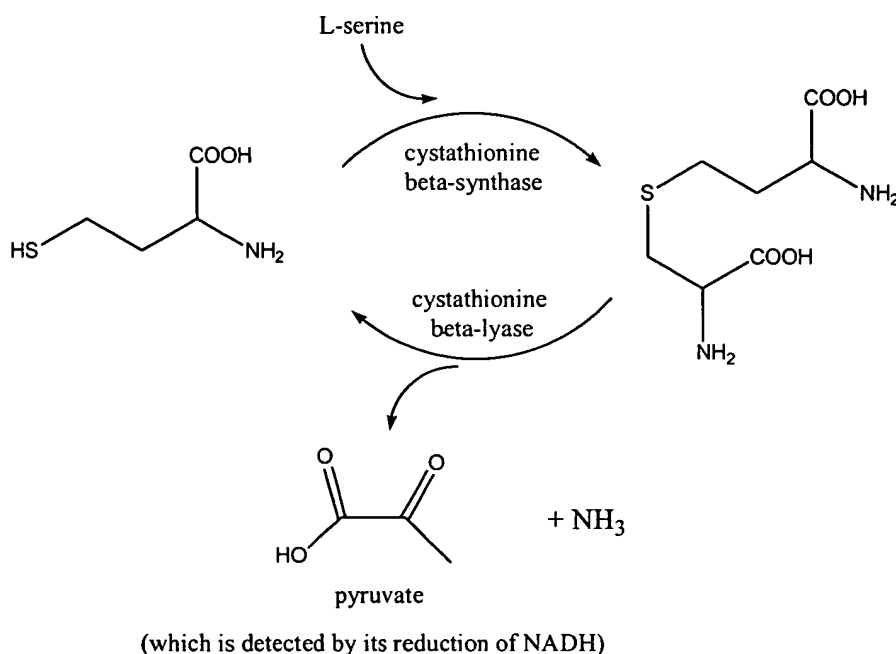
I, Chong-Sheng Yuan, Ph.D., declare as follows:

1. I am one of the named inventors on U.S. patent application 10/801,623. I have reviewed the specification and claims currently pending in the above-referenced case. The subject matter of the present application includes methods and kits for use in measuring homocysteine levels in samples, including biological samples such as blood, serum, plasma, or urine.

2. I understand that the Office has rejected the pending claims because they are asserted to be obvious in light of certain references when considered in certain combinations. I understand that one basis for the present obviousness rejections is U.S. Patent Application 2003/0138872 to Glenn Kawasaki, et al. I understand this Glenn Kawasaki is the same Dr. Glenn Kawasaki named as President of CATCH Inc., a Bothell, Washington-based company.

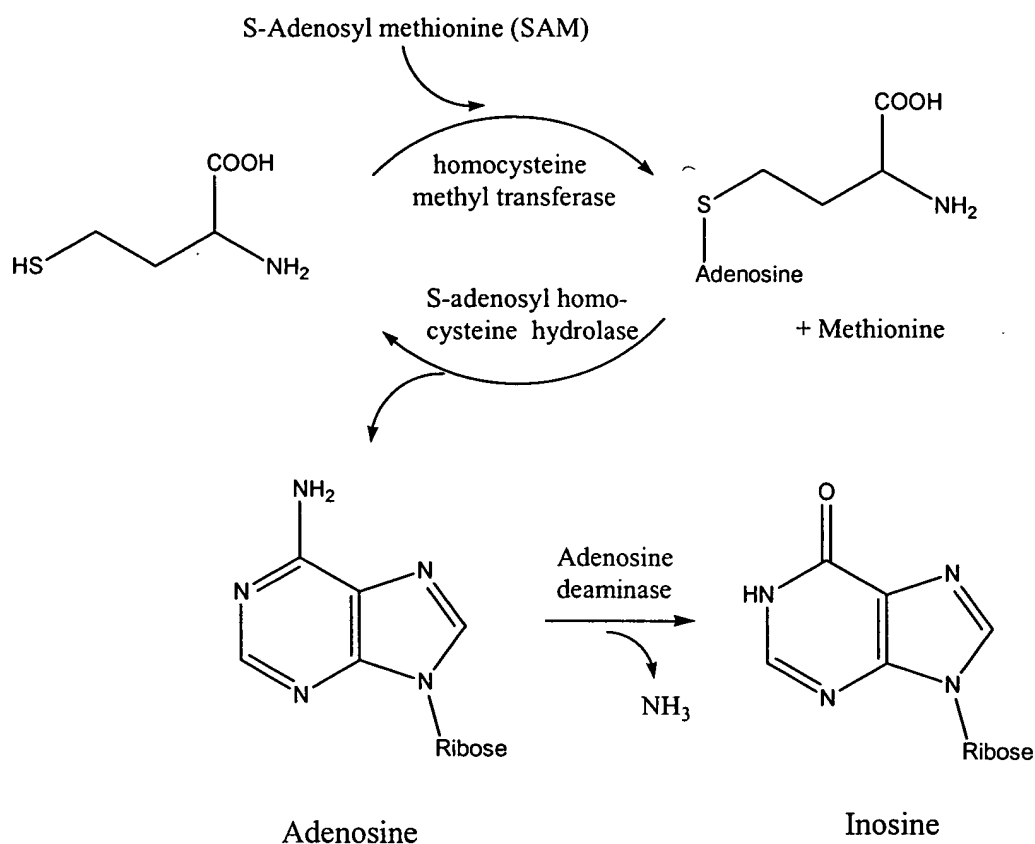
According to its web site, CATCH Inc. sells a homocysteine assay system for measuring the levels of homocysteine (Hcy) in blood samples or processed blood samples as one of its products. This information is available at the CATCH Inc. web site, www.catchinc.net/about.html; a copy of that web page is attached hereto as **Exhibit A**.

3. I understand that the CATCH Inc. assay for homocysteine is based on conversion of homocysteine to cystathionine, using L-serine and cystathionine- β -synthase; followed by conversion of the cystathionine to pyruvate and ammonia by cystathionine- β -lyase. The chemistry involved in that method is depicted in Scheme A.



I understand that the reaction produces pyruvate, which is detected photometrically. This information is available at the CATCH Inc. web site, www.catchinc.net/home.html; a copy of that web page is attached hereto as **Exhibit B**.

4. The reaction sequence utilized in that assay differs significantly from the reaction sequence used in the claimed invention, which is depicted in Scheme B:



5. I also understand that the assay used by CATCH (the “Kawasaki assay”) is an embodiment of the subject matter of U.S. Patent Application 2003/0138872 (the “Kawasaki application”): the abstract of that application describes this process, and claim 1 of that application, as published July 24, 2003, appears to describe this method as it is depicted at the CATCH Inc. web site.

6. The subject matter of pending claims of the present application is embodied in a new homocysteine assay (the “Diazyme assay”) that the assignee of the present application has developed and registered. The Diazyme assay has demonstrated technical advantages over the Kawasaki assay that would not have been expected from the Kawasaki reference. One such advantage is highlighted by a Warning Letter that the FDA sent to Kawasaki as President of CATCH Inc. The Warning Letter, which is dated April 6, 2005 and is attached as **Exhibit C**, states that CATCH Inc. failed to maintain and implement procedures to correct and prevent problems created by the “potential for iron assay interference with the homocysteine assay.” (**Exhibit C**, page 2)

7. In many clinical laboratories, a common instrument will run both iron and homocysteine assays. If the homocysteine assay is susceptible to iron assay interference, *i.e.*, interference on the homocysteine assay by the iron assay reagents, the carryover of the iron assay reagents creates a problem for the subsequent homocysteine assay run on the same instrument. The CATCH Inc. homocysteine assay creates such a “carryover” interference on an instrument. For example, in a letter sent by Beckman Coulter to its customers using the Beckman SYNCHRON clinical chemistry analysis system with the CATCH Inc. assay (**Exhibit D**), CATCH Inc. requested Beckman to send this letter to customers, warning them that carryover from certain iron assay reagents, *e.g.*, “SYNCHRON FE Reagent,” could result in falsely low Hcy results when using the Kawasaki assay. Thus the Kawasaki assay has been plagued with problems related to the iron assay interference.

8. Diazyme became aware of this problem in the Kawasaki assay, and obtained evidence that the Diazyme assay is far less sensitive to the presence of iron assay reagents. A summary of data that demonstrates this advantage is provided as **Exhibit E**: the data in this Exhibit were generated by Carolina Liquid Chemistries Corp. (“Carolina”) by or under the direction of Dr. Charles Allain. Carolina has contracted to distribute systems and products embodying the Diazyme assay. Carolina analyzed samples containing varying levels of Hcy (these were samples from patients) using the Kawasaki assay as implemented in the Beckman system, and compared the results to data obtained using the Diazyme assay in a Carolina system.

9. As the data shows, in the absence of iron assay reagents, there is very good agreement between the Kawasaki and Diazyme assays (section 1). However, where the cuvettes (reaction containers) used for the assay had been used immediately beforehand for a series of iron analyses, the Kawasaki assay measured far lower Hcy levels for each sample. The Diazyme assay, by comparison, reproduced the Hcy levels seen in the absence of iron assay reagents in every case (section 2). Finally, the systems were programmed to run a single iron assay before the Kawasaki assay, so that only the reagent probe rather than the reaction container was exposed to an iron assay reagent. Again, the Kawasaki assay provided extremely low values for Hcy, generally less than about half of the value measured when the system was free of iron assay reagents (section 3). Thus the Diazyme assay is far less sensitive to iron assay reagents than the Kawasaki assay, which is a clear advantage for an assay that is used in automated analyzers (which provides opportunities for

carryover problems, as such analyzers are typically used to perform multiple analysis) to analyze samples.

10. A second problem experienced by the Kawasaki assay is exemplified by a letter sent by CATCH Inc. to customers who use the Beckman clinical chemistry automated analyzer systems known as SYNCHRON®. The letter (**Exhibit F**) warns that late stage renal patients may have unusually high levels of cystathionine, possibly over 20 micromolar, which can interfere with the Kawasaki Hcy assay. The presence of high levels of cystathionine results in anomalously high measured Hcy levels when the Kawasaki assay is used. Diazyme became aware of this problem and examined the Diazyme assay to determine whether it was sensitive to high levels of cystathionine. A summary of the procedures used for this test and the results obtained is provided as **Exhibit G**. This shows the effect of cystathionine at concentrations ranging from 0 to 50 micromolar on the Diazyme assay and the “competitor’s” reagent, which uses the Kawasaki assay. At very high cystathionine levels (e.g. 50 micromolar) in ‘normal’ serum, the Diazyme assay was moderately affected: its result was elevated by 19.4% relative to the control with no added cystathionine. However, at the same cystathionine level, the Kawasaki assay result was higher than the control result by 135%. Using ‘abnormal’ serum, at very high cystathionine levels (e.g. 50 micromolar), the Diazyme assay result was elevated by 10.6% relative to the control with no added cystathionine, while the Kawasaki assay result was higher than the control by 73%. Thus the Diazyme assay is far less sensitive to the presence of cystathionine in samples to be tested than the Kawasaki assay is. This, too, is a clear and unexpected advantage for the claimed assay methods, since they are more suitable for analysis of a wide range of medical samples due to their more consistent results despite sample composition variations that are unavoidable in biological samples.

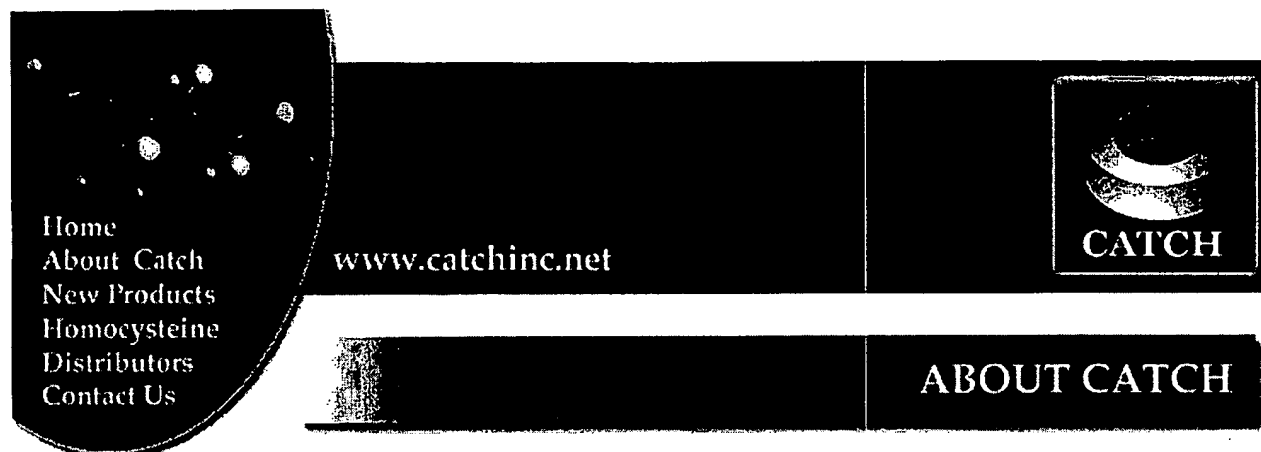
11. I have personally spoken to Diazyme customers who have contracted to distribute assays embodying the claimed invention. Several of these customers have stated to me that they favor the Diazyme product because of its technical superiority, in particular its lower sensitivity to variations in sample composition, which render the results more reliable than results from the Kawasaki assay. Thus the rapid marketplace acceptance of the Diazyme assay methods is a direct result of its technical advantages.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements

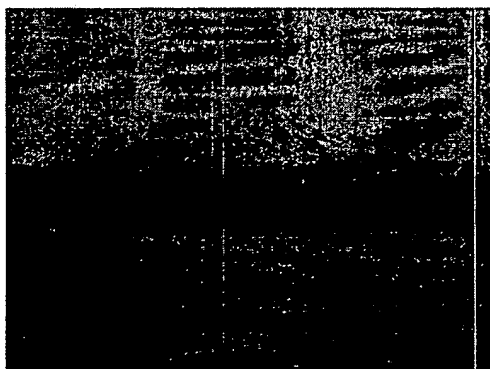
are made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Executed at San Diego, CA, on Nov. 3, 2005.
(city) (state) (day) (month)

Chongsheng Yuan
(inventor/declarant)



Catch Incorporated ("CATCH") is a Washington corporation that has developed a novel automated assay for homocysteine, a blood component that has been identified as a risk factor for cardiovascular and other diseases in humans. The U.S. market for measuring this compound was five million tests in 2002, costing patients \$30 to \$100 per assay. The market for this diagnostics test is rapidly growing and may become one billion dollars annually. CATCH is competing in this market with a cost effective, high-throughput enzymatic assay.



Lake Washington and Mt Rainier

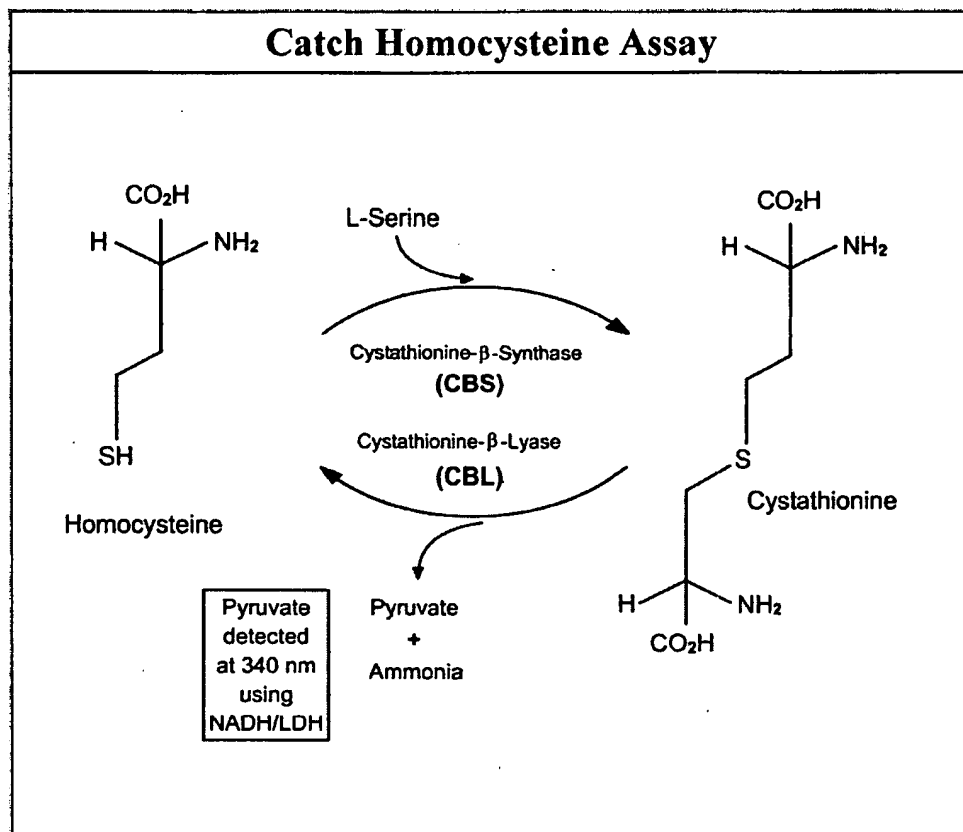
CATCH is a subchapter S corporation founded in February 1999. The Company has 6500 square feet of lab and office space in Bothell, Washington, near Seattle for conducting research and development of the homocysteine reagents. The Company works closely with two organizations on the diagnostics assay. Intersect Systems, Inc. in Longview, Washington, is an ISO registered FDA-approved facility for reagent production and packaging. CATCH has contracted with Intersect Systems to manufacture the homocysteine reagents. In addition, Intersect System has assisted Catch in conducting studies leading to FDA 510(k) product clearance to market. The other organization involved with CATCH product development and manufacturing is Bio-Research Products, Inc. "BRP", which synthesizes and stabilizes key enzymes used in the homocysteine test. BRP does contract fermentation for Catch and is located in North Liberty, Iowa.

The management of CATCH has over 60 years of combined experience in running biotechnology and medical diagnostics firms and has taken products through the Federal regulatory approval process. Drs. Glenn Kawasaki (President) and Mark Legaz (Vice President) also serve as CATCH corporate directors. Mark Rodman joined the Company in July 2003 as Vice President of Sales and Marketing. The scientific staff includes Drs. Ray Liedtke and Sobomabo Lawson who participated in the development of Catch's technology.

Homocysteine is a metabolite found in virtually all organisms and is involved with the synthesis of the amino acid, methionine. Homocysteine is, however, believed to be deleterious when present at high levels in human blood. Existing diagnostics tests comprise mainly (1) physical separation methods, such as

chromatography, and (2) immunoassays. Both methods are relatively slow and expensive. A few enzyme assays for homocysteine exist that suffer from high background noise and have given poor results. CATCH has developed an enzymatic cycling assay with high sensitivity and very little background. Applications for a number of chemistry analyzers are now available.

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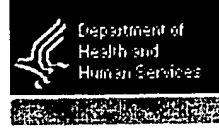


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Catch Incorporated Warning Letter



U.S. Food and Drug Administration



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Department of Health and Human Services

Public Health Service
Food and Drug Administration
Seattle District
Pacific Region
22201 23rd Drive SE
Bothell, WA 98021-4421

Telephone : 425-486-8788
FAX: 425-483-4996

April 6, 2005

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

In reply refer to Warning Letter SEA 05-19

Glenn H. Kawasaki, President
Catch Incorporated
11822 North Creek Parkway North, Suite 107
Bothell, Washington 98011

WARNING LETTER

Dear Mr. Kawasaki:

On February 9-11, 16, 18, and 24, 2005, a Food and Drug Administration (FDA) investigator conducted an inspection of your establishment located at 11822 North Creek Parkway North, Suite 107, Bothell, Washington. FDA has determined that your establishment is a specification developer of the Homogeneous Enzymic Homocysteine Reagent test system which is defined as a medical device under section 201(h) [21 U.S.C. 321(h)] of the Federal Food, Drug, and Cosmetic Act (the Act).

Our inspection revealed that this device is adulterated within the meaning of section 501(h) of the Act [21 U.S.C. 351(h)] in that the methods used in, or the facilities or controls used for manufacturing, packing, storage, or installation are not in conformance with the current Good Manufacturing Practice (cGMP) requirements for medical devices which are set forth in the Quality System Regulation (QSR), as specified in Title 21, Code of Federal Regulations (CFR), Part 820, as follows:

1. Failure to establish and maintain procedures for receiving, reviewing, and evaluating complaints by a formally designated unit, as required by 21 CFR 820.198(a). For example,

your firm had no approved written procedure for the handling of a complaint involving the potential for iron assay interference with the homocysteine assay.

2. Failure to maintain a Device Master Record which includes device specifications, production process specifications, quality assurance procedures, packaging and labeling specifications, and installation, maintenance, and servicing procedures, as required by 21 CFR 820.18.

3. Failure to establish and maintain procedures to ensure that all purchased or otherwise received product and services conform to specified requirements, as required by 21 CFR 820.50. For instance, you have not established and maintained the requirements, including quality requirements that must be met by [REDACTED] for purchased enzymes used in the manufacture of the Homogeneous Enzymic Homocysteine Reagent test system.

4. Failure to establish and maintain procedures for implementing corrective and preventive action, as required by 21 CFR 820.100(a). For example, your firm had no approved written corrective and preventive action procedure in place to verify or validate the corrective and preventative action initiated for iron assay interference with the homocysteine assay and to ensure that the subsequent change in package insert language was effective.

5. Failure to establish and maintain procedures to control the design of the device in order to ensure that specified design requirements are met, as required by 21 CFR 820.30. For example, design controls were not established and maintained to include design and development, design inputs and outputs, design review, design verification, design validation, design transfer, and design changes.

This letter is not intended to be an all-inclusive list of violations at your facility. It is your responsibility to ensure compliance with applicable laws and regulations administered by FDA. The specific violations noted in this letter and in the Inspectional Observations, Form FDA 483 (FDA 483), issued at the closeout of the inspection may be symptomatic of serious problems in your firm's manufacturing and quality assurance systems. You should investigate and determine the causes of the violations and take prompt actions to correct the violations and to bring your products into compliance. Federal agencies are advised of the issuance of all Warning Letters about devices so that they may take this information into account when considering the award of contracts. Additionally, no premarket submissions for Class III devices to which QSR deficiencies are reasonably related will be cleared until the violations have been corrected. Also, no requests for Certificates for Products for Export will be approved until the violations related to the subject devices have been corrected.

You should take prompt action to correct these deviations. Failure to promptly correct these deviations may result in regulatory action being initiated by the FDA without further notice. These actions include, but are not limited to, seizure, injunction, and/or civil penalties. Please notify this office within 15 working days of receipt of this letter of the specific steps you have taken to correct the noted violations, including an explanation of each step being taken to identify and make corrections to any underlying system problems necessary to ensure that similar violations will not recur. Please include any and all documentation to show that adequate correction has been achieved. In the case of future corrections, an estimated date of completion, and documentation showing plans for correction should be included with your response to this letter.

Please send your reply to the Food and Drug Administration, Attention: Lisa M. Althar, Compliance Officer, 22201 23rd Drive SE, Bothell, Washington 98021-4421. If you have questions regarding any issue in this letter, please contact Lisa M. Althar at (425) 483-4940.

Sincerely,

/S/

Charles M. Breen
District Director

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FDA/Freedom of Information



21 September 2004

URGENT: PRODUCT CORRECTIVE ACTION
SYNCHRON® Clinical Systems HOMOCYSTEINE (HCY) UDR Reagent

Part Number: A10928

Includes: Catch Homogeneous Enzymic Homocysteine Reagent (P/N A1187)
SYNCHRON® Clinical Systems User-Defined Procedure for Homocysteine (P/N A11203)
UDR Cartridge Pack (P/N A12708)

Dear SYNCHRON® Systems Customer:

Catch Inc. has asked us to distribute the attached Product Corrective Action notice concerning the performance of their Homocysteine (HCY) Reagent. A Catch Inc. in-house investigation has confirmed that SYNCHRON FE Reagent (P/N 487910) may cause falsely lowered HCY results if it is introduced into their HCY Reagent through reagent carryover. Since the SYNCHRON IBCT Reagent (P/N 485970) has a similar formulation to the SYNCHRON FE Reagent, there is a potential for carryover from both reagents.

To prevent potential carryover into the HCY Reagent, it is recommended that you use the Batch Mode for HCY testing. Prior to running the HCY specimens, you will need to perform a SYNCHRON Lipase Wash procedure. To assist you, we have attached a revised User Defined procedure for HCY, which includes instructions for performing a Lipase Wash on either the SYNCHRON CX or LX system.

For customers who run more than one SYNCHRON System in their laboratory, the issue of FE carryover into the HCY Reagent can also be resolved by running the SYNCHRON FE and/or IBCT assays on one system and the HCY UDR assay on a different system. If the HCY UDR assay is run on a SYNCHRON System that does not run either the SYNCHRON FE or IBCT assays, then the issue of FE carryover can be eliminated without performing the SYNCHRON Lipase Wash procedure. The SYNCHRON Lipase Wash procedure should be performed once, initially, on the system that is selected for the HCY UDR assay.

Please share this information with your laboratory staff and retain this notification as part of your laboratory Quality System documentation. Complete and return the enclosed response form within 10 days so we may maintain our records.

If you have any questions concerning this letter, please call Beckman Coulter at (800) 854-3833 in the United States and Canada, or contact your local Beckman Coulter Representative. We sincerely apologize for any inconvenience this may have caused your laboratory. Thank you for your continued support of Beckman Coulter products.

Sincerely,

Kathleen Jaker
Staff Regulatory Affairs Specialist - Compliance

Enclosure: Response Form
Catch Inc. Product Corrective Action Notice
SYNCHRON® Clinical Systems User-Defined Procedure for HOMOCYSTEINE

Beckman Coulter, Inc.

Beckman Coulter, Inc.
200 S. Kraemer Boulevard
Brea, CA 92621

Mailing Address:
200 S. Kraemer Boulevard
P.O. Box 8000
Brea, CA 92622-6000

Telephone: (714) 883-8321
Facsimile: (714) 881-4188
Internet: www.beckmancoulter.com



IRON INTERFERENCE STUDIES HOMOCYSTEINE REAGENT

To determine Iron Interference with enzymatic Homocysteine assays, 3 studies were conducted running Carolina Chemistries and Beckman (Equal) Homocysteine reagent kits with patient samples on a Synchron CX7. **This interference is likely to show up on instruments that run iron reagents containing hydroxylamine hydrochloride, and/or thioglycolic acid.**

1. **Absence of Iron** – Homocysteine was run on the following patient samples using a Synchron CX7 instrument which had not run any irons in the previous 200 samples. The results are as follows:

Sample ID	Beckman (Equal) HCY ($\mu\text{mol/L}$)	Carolina's optimized HCY ($\mu\text{mol/L}$)
1	19.68	20.15
2	14.67	15.24
3	15.45	14.98
4	12.13	11.47
5	19.19	20.21
6	11.2	11.82
7	24.99	25.76

2. **Iron carry over in the reaction cuvettes** - Serum samples were run immediately following 80 iron assays. The results are as follows:

Sample ID	Beckman (Equal) HCY ($\mu\text{mol/L}$)	Carolina's optimized HCY ($\mu\text{mol/L}$)
1	OIR LOW	20.18
2	1.74	14.98
3	7.28	15.59
4	6.44	11.33
5	6.53	19.97
6	2.79	11.18
7	7.86	25.05

3. **Iron carry over on the reagent probe** - Each patient sample was programmed to run Carolina HCY, Iron, and Beckman (Catch) in the same run. The results are as follows:

Sample ID	Beckman (Equal) HCY ($\mu\text{mol/L}$)	Carolina's optimized HCY ($\mu\text{mol/L}$)
1	OIR LOW	18.67
2	1.76	15.95
3	7.59	15.56
4	4.22	12.34
5	8.75	19.17
6	5.61	11.36
7	12.87	24.43

Dr Charles Allain, PhD

A handwritten signature in black ink, appearing to read 'Charles Allain', is written over a horizontal line.

510 West Central Avenue, Suite C, Brea, CA 92621

Telephone 800-471-7272 • Fax (714) 529-7170

www.carolinachemistries.com • e-mail: contactus@carolinachemistries.com



Catch Inc.
11822 North Creek Parkway North
Suite 107
Bothell, WA 98011
425-402-8960
425-402-8954 (FAX)

URGENT: PRODUCT CORRECTIVE ACTION

May 12, 2005

Product Name: Catch Homogeneous Enzymic Homocysteine Reagent
Part Number: A11167

Dear SYNCHRON¹ Systems Customer:

This letter concerns the possible interference of cystathionine in Catch Inc.'s homocysteine test. Currently, Catch warns customers about the effect of cystathionine in the package insert as follows:

"Cystathionine will cause a significant positive interference. However, cystathionine is not present in normal serum or plasma at a level high enough to cause concern (i.e., 0.065 to 0.301 $\mu\text{mol/L}$)."

We have recently found several dialysis patients with Stage 5 kidney disease and dramatic disturbances in homocysteine metabolism such that their plasma cystathionine levels have risen significantly ($>20 \mu\text{mol/L}$). In these rare cases a substantial positive error will occur in the homocysteine result produced by the Catch HCY assay. Catch Inc. therefore is changing its warning in the package insert regarding cystathionine to state the following:

"Cystathionine (Cys) is measured with homocysteine, but in the general population the Cys level (0.065 to 0.3 $\mu\text{mol/L}$) has a negligible effect. In very rare, end stage renal disease patients with severe metabolic disturbances, Cys levels may rise dramatically and cause greater than 20% interference."

Laboratories providing service to a dialysis center, may wish to alert physicians who order homocysteine tests. An appropriate coded computer comment could serve to let the physician know the situation. Catch Inc. strives to provide responsive and responsible technical support for its diagnostic assay method for the measurement of homocysteine and welcomes and will respond to any additional questions or comments.

Sincerely,

Raymond Liedtke, Ph.D.
Senior Scientist
Catch Inc.

¹ SYNCHRON is a trademark of Beckman Coulter, Inc.

Cystathionine Interference On Enzymatic Hcy Assays: A Comparison Study

June 20, 2005

Purpose: It is well known that renal failure or dialysis patients have elevated levels of serum Hcy which is considered as a new risk factor for developing cardiovascular complications of renal failure patients. It is also known that serum cystathionine levels in renal failure or dialysis patents are dramatically elevated. This study is to test if elevated serum cystathionine level interferes enzymatic Hcy assays.

Materials: Diazyme HCY reagent lot 01505, competitor HCY reagents lot M04046. Two serum specimens from ProMedDx LLC containing 11.83 μM HCY and 20.7 μM HCY respectively, Cobas Mira, Cystathionine from Sigma.

Procedure:

- (1). Make 1mM cystathionine in dI H₂O.
- (2). To 0.5 mL of serum containing 12.0 μM HCY and 20.0 μM HCY specimens, 0, 5 μM , 10 μM , 20 μM , 30 μM and 50 μM cystathionine was spiked respectively. The samples prepared are tested with Diazyme HCY enzymatic reagents and the competitor HCY enzymatic reagents on Cobas Mira.

Cystathionine spiking:

[cystathionine] μM	0	5	10	20	30	50
1mM cystathionine	0 μL	2.5 μL	5 μL	10 μL	15 μL	25 μL
dI H ₂ O	25 μL	22.5 μL	20 μL	15 μL	10 μL	0 μL

Results:

(1). HCY Normal Serum 11.83 μM

[cystathionine] μM	0 μM	5 μM	10 μM	20 μM	30 μM	50 μM
Diazyme Reagents	12.10 μM (0%)	12.44 μM (+2.8%)	12.97 μM (+7.2%)	13.14 μM (+8.6%)	14.07 μM (+16.3%)	14.45 μM (+19.4%)
Competitor Reagents	10.83 μM (0%)	12.35 μM (+14.0%)	14.5 μM (+33.9%)	16.83 μM (+55.4%)	20.52 μM (+89.6%)	25.47 μM (+135.2%)

(2). HCY Abnormal Serum 20.7 μM

[cystathionine] μM	0 μM	5 μM	10 μM	20 μM	30 μM	50 μM
Diazyme Reagents	20.40 μM (0%)	21.81 μM (+6.9%)	21.93 μM (+7.5%)	21.87 μM (+7.2%)	22.12 μM (+8.4%)	22.57 μM (+10.6%)
Competitor Reagents	20.25 μM (0%)	22.10 μM (+9.1%)	23.08 μM (+14.0%)	26.37 μM (+30.2%)	29.21 μM (+44.2%)	34.99 μM (+72.8%)

Conclusion:

- (1). Diazyme HCY enzymatic Assay is not significantly affected by cystathionine up to 20 μM for both normal and abnormal serum samples. In contract, the competitor enzymatic Hcy assay is significantly (55% and 30%) affected by cystathionine at 20 μM for normal and abnormal Hcy serum samples, respectively.

Indications for Use

510(k) Number: K042448

Device Name: Diazyme Homocysteine Enzymatic Assay Kit

Indications for Use:

Diazyme Enzymatic Homocysteine Assay is intended for the *in vitro* quantitative determination of total L-homocysteine in serum and heparin plasma. The reagents can assist in diagnosis and treatment of patients suspected in having hyperhomocysteinemia and homocystinuria.

Diazyme Homocysteine Enzymatic Assay Kit contains a single calibrator. The calibrator is used to generate a calibration point that will be used in the calculation of homocysteine concentrations in unknown serum samples.

Diazyme Homocysteine Enzymatic Assay has controls for normal serum homocysteine level and abnormal serum homocysteine level. The controls are used as reference samples for checking the functionality of the Diazyme Homocysteine Enzymatic Assay.

Prescription Use X
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use _____
(21 CFR 807 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of In Vitro Diagnostic Devices (OIVD)


Division Sign-Off

Office of In Vitro Diagnostic
Device Evaluation and Safety

510(k) K042448

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